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10/738,318	12/17/2003	Sujit Basu	200310440-1	7916

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EXAMINER	
PANTOLIANO JR, RICHARD	

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/738,318	BASU ET AL.	
	Examiner	Art Unit	
	Richard Pantoliano Jr	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 3/19/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is the initial office action for Application# **10/738,318** filed on **17 December 2003** with preliminary amendment received on **19 December 2005**. **Claims 1-35** are currently pending and have been considered below.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 16-25** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

4. **Claims 16-25** are not limited to tangible embodiments. In view of Applicant's disclosure, specification page 15, paragraph [0045], the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., CD-ROMs and optical disks) and intangible embodiments (e.g., data signals embodied in a carrier wave). As such, the claim is not limited to statutory subject matter and is therefore nonstatutory.

5. To overcome this type of 101 rejection the claims need to be amended to include only the physical computer media and not a transmission media or other intangible or non-functional media or the applicant must amend the specification to remove mention of intangible embodiments.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 13-15** are rejected under 35 U.S.C. 102(e) as being anticipated by Vargas (US PGPub: 2004/0103405).

8. As per **Claim 13,** Vargas discloses the invention substantially as claimed including a mechanism for migrating computer code from a source platform to a target platform comprising:

a) a means for preparing source files *(Fig. 2B) (The parser 112 meets this limitation)*;

b) a means for reverse engineering said prepared source files into an intermediate code *(para. [0100])*; and

c) a means for transforming said intermediate code into code suitable for use on said target platform *(para. [0111]-[0113])*.

9. As per **Claim 14,** Vargas discloses a means for preparing reports on said reverse engineered prepared source files *(para. [0110])*.

10. As per **Claim 15,** Vargas discloses a means for creating transformation rules to assist with said transforming means and a means for inputting said transformation rules into said means for transforming said intermediate code *(Fig. 5-14 and Pgs. 9-11)*.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. **Claims 1-4, 9-12, 16, 18-23, 26-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas (US PGPub: 2004/0103405) in view of Chandhoke et al. (US PGPub: 2002/0129333).

13. As per **Claim 1,** Vargas discloses the invention substantially as claimed including a method for converting data suitable for use on a source platform into data suitable for use on a target platform, said method comprising:

a) analyzing source platform code *(para. [0091])*;

b) extracting information from said analyzed source platform code wherein said extracted information includes at least the flow, and data of said source platform code *(para. [0092])*;

c) defining a generic data structure and format for storing said extracted information; storing said extracted information in said defined structure and format *(para. [0096] and [0110])*; and

d) transforming said extracted information into code suitable for said target platform wherein said transforming step comprises transforming said extracted information into code suitable for said target platform after said extracted information is stored in said defined structure and format *(para. [0093])*.

14. Vargas does not disclose the extracting of information from analyzed source code including the logic or user interface information for a program. Chandhoke et al discloses the parsing of information in order to generate information about the logic of a program *(para. [0278])*. Since programming languages cited by Vargas, such as Java, include the generation of the user interface as part of the program language, Chandhoke et al's teachings satisfy that limitation, as well.

15. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method disclosed by Vargas with the teachings disclosed by Chandhoke et al. It would have been obvious due to the need to ensure that the process of converting from the original platform to the target platform preserves the logic of the original platform so as to make the processes completely reversible *(Vargas; para. [0100])*. One would need to ensure that the logic were extracted and duplicated in the target platform to allow for the method to generate a result that was reversible.

16. As per **Claim 2,** Vargas discloses wherein said defined structure and format is XML *(para. [0110])*.

17. As per **Claim 3,** Vargas discloses wherein said analyzing of said source platform code comprises:

a) defining a language recognition tool *(para. [0091])*; and

b) using said defined language recognition tool to recognize elements of a program in a particular language *(para. [0091])*.

18. As per **Claim 4,** Vargas discloses wherein said language recognition tool is based on an EBNF programming language grammar *(para. [0118])*.

19. As per **Claim 9,** Vargas discloses producing a report from said extracted information *(para. [0110]) (The XML document generated as a result of parsing the original source code meets this limitation)*.

20. As per **Claim 10,** Vargas discloses analyzing and performing an intermediate transformation of said extracted information to assist with said report producing step *(para. [0111]-[0112])*.

21. As per **Claim 11,** Vargas discloses wherein said report comprises at least one of: a user interface mock-up; data definitions; symbol counts; application flow; a generic

XML report to assist in validating or verifying other complex manual migration of code from one platform to another platform; and details of a status of migration of code from one platform to another platform for a user *(para. [0110]) (The XML document meets this limitation both by creating as a generic XML document and by containing the flow of the program by maintaining a hierarchy of how the elements are related)*.

22. As per **Claim 12,** Vargas discloses wherein said transforming step comprises:

a) defining a set of transformation rules specific to said target platform *(Fig. 5-14 and Pgs. 9-11)*; and

b) using said transformation rules in transforming said extracted information into code suitable for said target platform *(Fig. 5-14 and Pgs. 9-11)*.

23. As per **Claim 16,** being a computer program product of the method of **Claim 1**, it is rejected for the same reasons as **Claim 1** above.

24. As per **Claim 18,** Vargas discloses code for generating reports based on said generic representation of elements *(para. [0110])*.

25. As per **Claim 19,** Vargas discloses code for analyzing and processing said generic representation of information elements to assist said code for generating reports *(para. [0111])*.

26. As per **Claim 20,** Vargas discloses code for generating an output file representing the code suitable for use on said target platform *(para. [0110]-[0111])*.

27. As per **Claim 21,** Vargas discloses said code for transforming comprises:

a) code for inputting a set of transformation rules specific to said target platform; and

b) code for using said transformation rules to convert said generic representation of elements into said code suitable for use on said target platform *(Fig. 5-14 and pgs 9-11)*.

28. As per **Claim 22,** Vargas discloses code for storing said generic representation of elements that reflect said relevant information of said code suitable for use on said source platform in XML format *(para. [0096] and [0110])*.

29. As per **Claim 23,** Vargas discloses code for generating an output file representing said generic representation of elements that reflect said relevant aspects of said code suitable for use on said source platform *(para. [0096] and [0110])*.

30. As per **Claim 26,** Vargas discloses the invention substantially as claimed including a data processing system for transforming a computer program written for a source platform to a computer program written for a target platform comprising: memory storing a transformation program operating to:

a) memory storing a transformation program operating to *(para. [0036] and Fig 1, item 106) (The program is shown as being stored on the computer 106)*:

b) analyze source platform code *(para. [0091])*;

c) extracting information from said analyzed source platform code wherein said extracted information includes at least the flow, and data of said source platform code *(para. [0092])*;

d) defining a generic data structure and format for storing said extracted information; storing said extracted information in said defined structure and format *(para. [0096] and [0110])*; and

e) transforming said extracted information into code suitable for said target platform wherein said transforming step comprises transforming said extracted information into code suitable for said target platform after said extracted information is stored in said defined structure and format *(para. [0093])*; and

f) a processor for executing said transformation program *(para. [0037] and Fig 1, item 106) (A processor is an inherent part of computer 106)*.

31. Vargas does not disclose the extracting of information from analyzed source code including the logic or user interface information for a program. Chandhoke et al discloses the parsing of information in order to generate information about the logic of a program *(para. [0278])*. Since programming languages cited by Vargas, such as Java, include the generation of the user interface as part of the program language, Chandhoke et al's teachings satisfy that limitation, as well.

32. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method disclosed by Vargas with the teachings disclosed by Chandhoke et al. It would have been obvious due to the need to ensure that the process of converting from the original platform to the target platform preserves the logic of the original platform so as to make the processes completely reversible *(Vargas; para. [0100])*. One would need to ensure that the logic were extracted and duplicated in the target platform to allow for the method to generate a result that was reversible.

33. As per **Claim 27,** Vargas discloses said defined structure and format is XML *(para. [0110])*.

34. As per **Claim 28,** Vargas discloses wherein said analyzing of said source platform code comprises:

a) defining a language recognition tool *(para. [0091])*; and

b) using said defined language recognition tool to recognize elements of a program in a particular language *(para. [0091])*.

35. As per **Claim 29,** Vargas discloses wherein said language recognition tool is based on an EBNF programming language grammar *(para. [0118])*.

36. As per **Claim 30,** Vargas discloses wherein said transformation program operates to further analyze a program operating on a source platform by: defining a

custom analysis tool that is specific to said program operating on said source platform; and using said defined custom analysis tool to pre-process said program operating on said source platform before said extracting of information *(para. [0087]-[0089] and [0091]-[0093]) (In order to analyze each of the different languages specified, it is inherent that the analysis tool used for each language be tailored to that language).*

37. As per **Claim 31,** Vargas discloses wherein said transformation program operates to further analyze a program operating on a source platform by: defining a tool to be used for analyzing said source program operating on said source platform; and using said defined tool to identify elements of said source program operating on said source platform that are relevant and not-relevant to said transforming of said extracted information *(para. [0118]) (The analyzer contains a component to determine what information need not or cannot be converted to the target language. Who supplies the utility is irrelevant to the operation of the system).*

38. As per **Claim 32,** Vargas discloses wherein said transformation program further operates to: produce a report from said extracted information *(para. [0110]) (The XML document generated as a result of parsing the original source code meets this limitation).*

39. As per **Claim 33,** Vargas discloses wherein said transformation program further operates to: analyze and perform an intermediate transformation of said extracted information to assist with said report producing *(para. [0111]-[0112])*.

40. As per **Claim 34,** Vargas discloses said report comprises one or more of: a user interface mock-up; data definitions; symbol counts; application flow; a generic XML report to assist in validating or verifying other complex manual migration of code from one platform to another platform; and details of a status of migration of code from one platform to another platform for a user *(para. [0110]) (The XML document meets this limitation both by creating as a generic XML document and by containing the flow of the program by maintaining a hierarchy of how the elements are related)*.

41. As per **Claim 35,** Vargas discloses said transformation program operates to transform said extracted information by:

a) defining a set of transformation rules specific to said target platform *(Fig. 5-14 and Pgs. 9-11)*; and

b) using said transformation rules in transforming said extracted information into code suitable for said target platform *(Fig. 5-14 and Pgs. 9-11)*.

42. **Claims 5-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas (US PGPub: 2004/0103405) in view of Chandhoke et al. (US PGPub:

2002/0129333) as applied to **Claim 3** above, and further in view of Reid et al (US Pat: 6,560,592).

43. As per **Claim 5**, Vargas does not disclose said language recognition tool is an ANTLR language recognition tool. Reid et al. discloses the use of a parse generated using the ANTLR parser generator *(Col. 19, Lines 48-66)*.

44. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method disclosed by Vargas with the ANTLR teachings of Reid et al because of the ease of use and standardization of output that tools such as ANTLR provide. Parser generators such as ANTLR generate parsers for text based on the syntax of the language the software developer wishes to parse. By allowing the developer to input a description of the language he or she wishes to parse, a tool such as ANTLR will output a program capable of parsing that language in a standardized way, without requiring the developer to generate a unique parser for each language by hand.

45. As per **Claim 6,** Vargas discloses wherein said analyzing step further comprises: defining a custom analysis tool that is specific to said source platform code; and using said defined custom analysis tool to pre-process said source platform code before said extracting of information *(para. [0087]-[0089] and [0091]-[0093]) (In order to analyze each of the different languages specified, it is inherent that the analysis tool used for*

each language be tailored to that language to read that inputted language and give a proper output).

46. As per **Claim 7,** Vargas discloses wherein said analyzing step further comprises: defining a custom analysis tool that is specific to said source platform code; and using +said defined custom analysis tool to post-process said source platform code after said extracting of information *(para. [0087]-[0089] and [0091]-[0093]) (In order to analyze each of the different languages specified, it is inherent that the analysis tool used for each language be tailored to that language to read that inputted language and give a proper output).*

47. As per **Claim 8,** Vargas discloses wherein said analyzing step further comprises: defining a tool to be used for analyzing said platform code; and using said defined tool to identify elements of said source platform code that are relevant and not-relevant to said transforming of said extracted information *(para. [0118]) (The analyzer contains a component to determine what information need not or cannot be converted to the target language. Who supplies the utility is irrelevant to the operation of the system).*

48. **Claims 17, 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas (US PGPub: 2004/0103405) in view of Chandhoke et al. (US PGPub: 2002/0129333) as applied to **Claim 3** above, and further in view of Li (US Pat: 6,546,549).

49. As per **Claim 17,** Vargas does not explicitly disclose code for optimizing said code suitable for use on said source platform for extraction. However, Li does disclose optimizing said code by using templates for the same software platforms but from different execution platforms to be utilized to generate new code that would be compatible with all of the execution platforms, involved *(Col. 4, Lines 23-62)*.

50. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the computer program product disclosed by Vargas with the teachings of Li to allow for the target source code produced by Vargas's system to be executable on multiple execution platforms in the new language upon which the target source would be composed.

51. As per **Claim 24,** it is rejected for the same reasons as **Claim** 17 above.

52. As per **Claim 25,** Vargas discloses code for performing customized extraction of information from said code suitable for use on said source platform *(para. [0107]-[0108]) (The user computer program product can select which source platform files to process).*

Conclusion

53. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a) Tondreau et al (US PGPub: 2003/0226132) discloses a system and method for converting a procedural program into an object-oriented program;

b) Ben-Romdhane et al (US PGPub: 2004/0031015) discloses a method for analyzing the control flow of a program, the software library dependencies, and a means for displaying that information to the user; and

c) Heughebaert et al (US Pat: 6,408,431) discloses a method and apparatus for taking multiple input specification files and outputting source code for multiple languages.

54. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Pantoliano Jr whose telephone number is (571) 270-1049. The examiner can normally be reached on Monday-Thursday, 8am - 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571)272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

55. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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